REMARKS

The Office Action dated May 8, 2006, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 3-8 were withdrawn pursuant to a Restriction Requirement dated September 29, 2005. Claims 1-8 are pending and claims 1 and 2 are respectfully submitted for consideration.

Rejection Under 35 U.S.C. § 103

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Chiba et al. (Suzuki Segregation and Dislocation Locking in Supersaturated Co-Ni Based Alloy, **hereinafter "Suzuki Segregation"**) in view of Chiba et al. (WO 02/24967 A1, **hereinafter "Chiba"**). The Applicants note that the Office Action cited Chiba et al (US 2004/0025989) as the English language version of Chiba et al. (WO 02/24967 A1). The Applicants also note that one of the inventors of the present application, Akihiko Chiba, is the same inventor of the Chiba reference and author of the Suzuki Segregation reference.

The Office Action took the position that Suzuki Segregation discloses many of the claimed elements of the invention with the exception of an alloy having a fine twin structure, a parent phase and Co_3Mo or Co_7Mo6 precipitated at boundaries of the fine twin structure and the parent phase. The Office Action also acknowledged that Suzuki Segregation does not disclose at least one kind of 0.007 to 0.10% of REM; 0.001 to 0.010% of B; 0.0007 to 0.010% of Mg and 0.001 to 0.20% of Zr. Chiba was cited for curing this deficiency. The Applicants traverse the rejection and respectfully submit that

claims 1 and 2 recite subject matter that is neither disclosed not suggested by the cited references.

Claims 1 and 2 recite a precipitation hardened Co-Ni based heat-resistant alloy comprising a fine twin structure, a parent phase and Co_3Mo or Co_7Mo_6 precipitated at boundaries of the fine twin structure and the parent phase.

The Applicants respectfully submit that Suzuki Segregation and Chiba, either singly or in combination fail to disclose or suggest the claimed features of the invention. The Suzuki Segregation and Chiba Co-Ni based alloys are different from the Co-Ni based heat-resistant alloy recited in claims 1 and 2. In the present invention, to form a fine twin structure, a parent phase and Co_3Mo or Co_7Mo_6 precipitated at boundaries of the fine twin structure and the parent phase, as recited in claims 1 and 2, an aging heat treatment is performed in a condition of applying stress. Such a heat treatment causes precipitation of a fine deposit. Specifically, a fine twin structure and high density of stacking fault can be obtained by the stress heat treatment.

Moreover, since the density of the stacking fault is large, a large number of deposits are precipitated at a surface of the stacking fault. Therefore, the structure can be strengthened in a high temperature by finely dispersed deposits and the fine twin structure.

The Office Action took the position that Suzuki Segregation teaches in Fig. 2(b), aging at 943 K (670 degrees C) in a condition of applied stress for about 5000 seconds which is about 1.1 hours. See page 3, lines 7-10 of the Office Action. In contrast, Suzuki Segregation discloses that the test shown in Fig. 2(b) is a stress relaxation

experiment, which is not comparable to an aging heat treatment. See page 2113, right-hand column, line 4 of Suzuki. Therefore, Fig. 2(b) of Suzuki merely shows a result of the stress relaxation experiment at high temperatures, and does not disclose or suggest obtaining the claimed alloy by aging heat treatment in a condition of applying stress. As such, the Applicants respectfully submit that the stress relaxation experiment disclosed in Suzuki Segregation would not inherently produce the claimed result of having a fine twin structure as recited in claims 1 and 2.

Chiba fails to cure the deficiencies in Suzuki Segregation as Chiba also fails to disclose or suggest a precipitation hardened Co-Ni based heat-resistant alloy comprising a fine twin structure; a parent phase and Co_3Mo or Co_7Mo_6 precipitated at boundaries of the fine twin structure and the parent phase, as recited in claims 1 and 2. In the present invention, a material is subjected to solid solution heat treatment, cold or warm working with a reduction rate of 40% or more, and high temperature aging heat treatment at 800 to 950°C for 0.5 to 16 hours. In contrast, Chiba discloses an aging heat treatment performed at 500 to 800°C for 0.1 to 50 hours, which cannot produce a fine twin structure and Co_3Mo or Co_7Mo_6 precipitated at boundaries of the fine twin structure and the parent phase, as recited in claims 1 and 2.

Further, Chiba does not disclose or suggest an aging heat treatment as performed in which at least a heat-resistant alloy is heated in an adequate time to a temperature of 600°-800°C in a condition of applying stress after the solid solution heat treatment. In contrast, in Chiba, aging is performed at a temperature of from 500 to 800°C for 1 to 50 hours with no stress after cold working. See paragraph [0041] of

Chiba. In such a heat treatment, only deposits are obtained. Thus, Chiba cannot be expected to obtain high strength in a high temperature since the deposits are coarse. Therefore, Chiba does not disclose or suggest at least the combination of features of the formation of a fine twin structure as disclosed in the application and a parent phase and Co_3Mo or Co_7Mo_6 precipitated at boundaries of the fine twin structure and the parent phase, as recited in claims 1 and 2. As such, the combination of Suzuki Segregation and Chiba fails to disclose or suggest each and every feature of the invention as recited in claims 1 and 2.

Under U.S. patent practice, the PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002). The Office Action restates the advantages of the

present invention to justify the combination of references. There is, however, nothing in the applied references to evidence the desirability of these advantages in the disclosed structure.

Conclusion

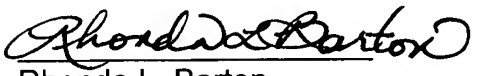
In view of the above, the Applicants respectfully submit that the Office Action has failed to establish a *prima facie* case of obviousness for purposes of a rejection of claims 1 and 2 under 35 U.S.C. §103. Accordingly, the Applicants respectfully request withdrawal of the rejections, allowance of claims 1 and 2 and the prompt issuance of a Notice of Allowability.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper,

may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 108421-00075**.

Respectfully submitted,



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